



A brief analysis of introducing curriculum ideological and political elements into "Mapping Practice of Auto Parts"

Shen Xu*, Xu Wang, Lifeng Ma

School of Mechanical and Automotive Engineering, Shanghai University of Engineering Science, Shanghai
201620, China

*Corresponding author: S. X., Email: shxu16@sues.edu.cn

Abstract

The article focuses on the new requirements of integrating curriculum ideological and political elements into the professional practice course of "Automotive Parts Mapping Practice", proposes feasible curriculum ideological and political elements, establishes the course teaching concept of ideological and political element integration, and discusses the new teaching mode different from the traditional practice course, striving to integrate professional knowledge education, ideological and political education, and students' practical ability training. The course aims to integrate professional knowledge education, ideological and political education and the cultivation of students' practical skills, and comprehensively promote the construction of the teaching content, curriculum system, teaching methods, teaching means, teaching conditions and teaching staff of Mapping Practice of Auto Parts, so as to lay a solid practical foundation for the revitalization of Chinese automotive industry and the cultivation of China's own manufacturing technology engineers for the first line of automotive production.

Keywords: Curriculum Ideological and Political Education; Automotive Parts Mapping Practice; Practical course;

1. Introduction

In response to the phenomenon of emphasizing intellectual education over moral education and classroom teaching over thinking and politics education that still exists in China's university education, there are still many problems to be solved in the construction of ideological and political education in professional courses in terms of ideology, content form, methods and means, and team building. In the professional courses, the way to implement the ideological and political education is to take professional knowledge as the carrier, socialist core values and excellent traditional culture as the soul and the main line, and according to the course teaching standards, to explore the course nurturing resources, not limited in the content of the teaching materials. From these, positive contents such as patriotism, awareness of the legal system, social responsibility, dedication and love of work and commitment to the times are extracted and integrated into the teaching of the curriculum to educate students on how to behave. The integration and practice of this type of educational method has been widely reported. Professional practice courses are an important part of undergraduate

A brief analysis of introducing curriculum ideological and political elements into "Mapping Practice of Auto Parts"

engineering education. Professional practice courses not only enable students to learn to apply their knowledge and engage in professional skills, but also help them establish a correct career outlook and values. However, there are still relatively few reports on the integration of curriculum ideological and political content in the implementation of professional practice courses.

Here, we take the practical course of Automotive Engineering in Shanghai University of Engineering Science, China, "Mapping Practice of Auto Parts", as an example to analyze the way of integrating the ideological and political elements into the practical course. The main task is to cultivate students' rich spatial imagination, graphic information expression ability, drawing ability and innovation ability by applying the theoretical knowledge of mechanical drawing to map and draw automobile parts [1, 2]. At the same time, it is an indispensable foundation for learning subsequent courses, completing course design and graduation design. Through the study of this course, students are expected to learn and master the basic procedures, basic content, basic requirements and basic methods of the surveying and mapping process, to extract effective information and consider technical, economic, management, social, health, safety, legal, cultural and environmental factors in the complex surveying and mapping process, and to facilitate the surveying and mapping process and product and production process design with feasibility, practicality and innovation. Students will be able to communicate effectively with team members, industry peers and the public, and will be able to express their design ideas and design points correctly. Finally, they will develop the awareness to think and solve problems from a global perspective.

2. Analysis of the Ideological and Political Elements Integration in the Practical Course "Mapping Practice of Auto Parts"

"Mapping Practice of Auto Parts" is a compulsory technical foundation practical course for vehicle engineering majors in undergraduate education. It is an important way to cultivate the first year undergraduate students' emotion towards the profession they are studying and their interest and hobby in the automotive profession. It integrates the abilities of measuring, drawing, and reading automobile parts, and masters the basic skills, basic steps and methods of measuring and drawing, which lays a necessary and solid foundation for cultivating students' spatial thinking ability and drawing skills. In addition, contemporary undergraduate students have a great responsibility, shouldering the mission of the times and relating to the future development and construction of the motherland. Moral and ethical education is of paramount importance to undergraduate students and has a significant impact on the overall quality of the Chinese nation, the future of the country and the destiny of the nation. In order to inherit the fine tradition of our party and ensure the successor of the party and the national cause, it is necessary to focus on the education and training of undergraduate students in order to improve their moral quality [3]. The course "Mapping Practice of Auto Parts" cultivates talents with solid technical skills and good engineer quality, and undertakes the historical mission of passing on the development of the socialist automotive industry. Based on the above understanding, this course incorporates elements of patriotism, craftsmanship, scientific and technological strength, teamwork, humanistic aesthetics and intellectual property into the teaching of the course.

2.1 Ideological and Political Elements Integration in the Opening Lecture

This practical course is divided into two sessions. In the 1st and 2nd two credit hours, enterprise experts are invited to give an opening lecture for students. The integration of ideological and political elements can be divided into the following aspects:

- (1) When teaching theoretical knowledge and production processes, the actual distance between domestic and foreign technology should be explained, neither blindly arrogant, nor pandering to foreigners. Lecturers promote patriotism among university students, guide students to correctly establish their outlook on life, values, socialist core values, and motivate them to strengthen their country with science and technology.
- (2) The lecturers need to explain new technologies, new theories, new materials, new algorithms, combined with patents and other creative inventions, to explain commercial technology confidentiality, patent protection, patent infringement and other related common sense.
- (3) Facing the monopoly of foreign technology in the automobile industry, it is important to explain that the country is strong and science and technology will serve the nation. Students will be inspired to be patriotic and study hard, and if it is possible to study abroad, they must serve the motherland and become the pillar of the country. The students should be encouraged to study hard for the development of national industry and revitalization of national industry.
- (4) The importance of teamwork should be emphasized in practical course and even in process technology, process scheme design. The lecture can lead the students to grow as a great craftsman, who strive for excellence. In the design process, through the project of invention patents and other new technologies, the object is to enhance the students' practical handling of the project comprehensive ability, to cultivate students' independent research ability, to help them break the traditional thinking, and to promote innovation ability.

2.2 Ideological and Political Elements Integration in the Practical Session

After completing the opening lecture, a practical session based on students' subjective initiative is carried out, in which ideological and political elements are integrated into the following aspects:

- (1) Guiding students to establish engineering awareness. The practice focuses on the cultivation of engineering thinking, so it requires the students to comply with the law, study national enterprise platform standards, use tools, understand patents, and the current state of production in the enterprise, including enterprise production capacity, technical capacity, equipment capacity, worker capacity, production goals, production requirements, etc., and to become an engineer who is pragmatic, user-first, taking into account cost, efficiency and quality, and possessing the most important quality to be loyalty to the enterprise, protection of oneself and protection of equipment.
- (2) Requiring the students to take away all rubbish when leaving classrooms after class. Let them behave as civilized engineers starting with small things, and learn the terminology in class and to use it outside of class.
- (3) Combining humanistic and aesthetic education, teachers can open a second classroom with aesthetic education, subconsciously allowing a spiritual mind not to stick to conventional designs and designing high level and beautiful products. With the continuous development of the new era, people's living standards are gradually improving, putting forward higher requirements for industrial products and consumer goods, not

A brief analysis of introducing curriculum ideological and political elements into "Mapping Practice of Auto Parts"

only to the quality of the products, but also the aesthetics of the products. This requires the introduction of a large number of quality and innovative products through good design to meet the needs of the market.

3. Curriculum Teaching Philosophy

3.1 Strengthening the Professional Ethics and Capacity of the Teaching Team

As the pillars of the nation, undergraduate students shoulder the mission of the times and provide the foundation for the future development and construction of the country. At present, the psychological characteristics of college students who have just entered university gradually tend to mature, but their life goals and value orientations are still in the exploration stage. Their values are still unstable and in the formation stage. They are easily influenced and compelled by the surrounding environment and easily used by others. As the growth environment for undergraduate students and as a platform for the concentration of senior intellectuals in the country, teachers in colleges and universities bear the important responsibility of leading the direction of ideological and cultural development of university students. The stable formation of students' outlook on life and values in colleges and universities is closely related to the words and teachings of college teachers. Promoting the moral style of college teachers in the new era and striving to build a team of teachers with ideal beliefs, moral sentiments, solid knowledge and benevolent hearts are the fundamentals of the construction of the teaching team of "Mapping Practice of Auto Parts". Teachers in colleges and universities strictly follow the standard professional behavior, clarify the bottom line of teacher ethics, adhere to professional conduct, and guide the overall teaching team to strive to become a good team with ideals and beliefs, moral sentiments, solid knowledge and a benevolent heart.

For many years, it has been the mission of teachers to teach and educate people. As the bearers of human civilization and soul, teachers in colleges and universities implement the Communist Party of China's policy of teaching and educating people, working hard and devoting themselves silently for the sake of all students. They contribute to the improvement of students' literacy, to the stable development of society and to the prosperity of the country [4]. Since the 18th National Congress, the new era has put forward higher requirements for teachers, who should further implement the fundamental task of establishing moral education, enhance their sense of self-responsibility, mission and honor, regulate their professional conduct, clarify the bottom line of teacher ethics, be with firm ideals and beliefs and noble moral sentiments, and strive to cultivate socialist builders and successors!

Teachers should insist on casting the soul with ideology, and study in depth Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era [5]. It's time for establishing a theoretical study system for teachers and organizing teachers to study the College Teachers Occupational Ethics and the Ten Rules of Professional Behavior for College Teachers in the New Era, in order to thoroughly implement the spirit of the Party's requirements for the construction of the teaching force, to create a high-quality professional and innovative teaching force that satisfies the Party and the people, to implement the fundamental task of establishing moral education, and finally to lay a solid foundation for contributing to the success of building a well-off society in all aspects, winning the great victory of socialism with Chinese characteristics in the new era, and realizing the Chinese dream of the great rejuvenation of the Chinese nation.

A brief analysis of introducing curriculum ideological and political elements into "Mapping Practice of Auto Parts"

Teachers should focus on improving the ideological and political quality of teachers and their professional ethics[6], firmly grasp the "four self-confidences", guide teachers to accurately understand and grasp the profound connotation of the core socialist values, steadfastly pursue a political direction, consciously love the country and abide by the law, adhere to integrity and self-discipline, insist on the integrity of their words and actions, and abide by academic norms. Teachers should uphold fairness and honesty, take the lead in practicing the core socialist values and spreading excellent culture, teach and educate, care for and love students and actively contribute to society.

3.2 Strengthen Research to Feed Teaching and Build a Teaching Team with University-Enterprise Cooperation

Teachers are expected to be enhancers of students' motivation, supporters of innovation and guides to the direction of learning. Teaching drives research and re-search feeds teaching. This practical course focuses on using technology at the forefront of science and technology to teach students new techniques and theories that keep up with the times. At the same time, both the theoretical and practical teaching of "Mapping Practice of Auto Parts" employs professional backbone from enterprises and professional teachers from schools to carry out industry-university-research cooperation and build a team of teachers jointly trained by enterprises and schools. Taking the development direction of modern automobile manufacturing technology as the guide, the course teaching of school-enterprise cooperation is carried out. Adopt the school-enterprise cooperation approach and jointly train students with enterprises such as Shanghai Automotive and Shanghai Traffic. The teaching content of the course is based on the machining process and assembly process of typical automotive parts, and a model course structure close to enterprise production is adopted. The organization and arrangement of the teaching content follows the actual production design process of enterprise parts processing. During the course design, relevant process experts from the university-enterprise partner enterprises are employed to jointly develop the course design content and implementation plan, and act as external tutors to jointly guide the course.

3.3 Adherence to Student Agency and Growth in Learning

Education is an important way to cultivate socialist builders and successors, and should focus on the development of the future era, the future development of man-kind, the essence of education, and the fundamental task of education to establish moral education. To improve the quality of education, teaching tasks must focus on cultivating students' thinking skills.

In the past, the traditional transport of materials was mostly carried out in bulk, which was not very efficient. The invention of container transport has changed the mode of transport and improved its efficiency. The example of the container provides us with an idea that triggered a change in production as well as in social thinking. All technological advances in the world have not been the result of creative human thinking. Students develop a critical and creative way of thinking and living and improve their ability to apply basic skills. The exercise of student thinking comes from classroom education. Taking our current education as a starting point, the most fundamental thing we need to do now is to make the shift from teaching to learning.

A brief analysis of introducing curriculum ideological and political elements into "Mapping Practice of Auto Parts"

Adhere to the teaching concept of "learning by doing" and focus on the cultivation of students' innovative and practical abilities. Enterprise employers have increasingly high requirements for the practical and innovative abilities of automotive engineering students. This practical course has the characteristics of strong theory, strong engineering practice and wide coverage and thus strongly depends on students themselves. The teaching team of "Mapping Practice of Auto Parts" insists on being the designer, guide and helper of learning in the teaching process. They design suitable learning programs for students, pay attention to individual differences and help each student to learn successfully. Special attention is paid to project case teaching and enterprise practice to inspire students to think through their hands and brains, to make them cognitive about society, enterprises, products and production processes, and to cultivate their innovative thinking.

4. Conclusion

Taking "Made in China 2015" and the development direction of automotive intelligent manufacturing as the guide, taking the training needs of undergraduate talents in vehicle engineering as the guide, matching the development of science and technology, industry development and students' development, integrating professional knowledge education with ideological and political education, and comprehensively promoting the teaching content, curriculum system, teaching methods, teaching means, teaching conditions and teachers' team construction of "Mapping Practice of Auto Parts". The introduction of ideological and political education in practical teaching and the strengthening of patriotism, collectivism, socialism, national spirit and professional ethics education in the professional teaching of "Mapping Practice of Auto Parts" is an inevitable requirement for revitalizing the national automobile industry, training automobile manufacturing engineers and cultivating China's own manufacturing process engineers for the first line of automobile production. It is an inevitable requirement to revitalize the national automobile industry, train automobile manufacturing engineers and train China's own manufacturing process engineers for the first line of automobile production.

5. Acknowledgement

The research is financed by Course Ideological and Political Project (c202201002) and "New Engineering" Construction Projects (c202201005) from Shanghai University of Engineering Science.

6. References.

1. Song, X., Cui, G., Zhang, Y. & Fan, P. (2020). A brief analysis of the course ideological and political into the "automobile manufacturing technology" teaching Patterns and Practices. *Automobile Applied Technology*, 2020(19), 249–252.
2. Gao, J. (2022). Synergy between curriculum ideological and political education and ideological and political courses in colleges and universities. *Journal of Tianjin Normal University (Social Sciences)*, 2022(2), 122–128.
3. Ma, L., Fan, P., & Xu, S. (2020) Exploring of teaching effect of course "vehicle chassis structure" based on the teaching mode of divided class. *International Journal for Innovation Education and Research*, 8(6), 230–234.

A brief analysis of introducing curriculum ideological and political elements into "Mapping Practice of Auto Parts"

4. Ling, B., Wang, J., Liang, K., Zhang, Y., Zhang, Z., Ye, G., Liao, X., & Li, X. (2021) Practice and exploration of curriculum ideological and political education in the construction of online courses in medical universities. *Creative Education*, 12(4), 865-870.
5. Xue, Z.H., Lai, J. and Ma, Q.F. (2021) Research on the Collaborative Education of Ideological and Political Education under the Guidance of Party Construction. *Open Access Library Journal*, 8(5), 1-7.
6. Zhao, B. & Tian, Q. (2021) Curriculum ideological and political ideas and exploration of the path to incorporate football curriculum. *Frontiers in Educational Research*, 4(5), 60-64.